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MEDICAL
HISTORY



HYGIEIA

Section 2
MEDICINE AFTER HARVEY

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Art
IN
Medical History

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Section II
Medicine after Harvey

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MEDICINE AFTER HARVEY

THE great dividing line in medical history is the discovery of the circulation of the blood by William Harvey. He published his little book on the subject at Amsterdam in 1628—that little book which contains about 100 pages and now sells in its original edition for \$500.00 and sometimes even as high as \$700.00—unfortunately there are only about half a dozen of them in existence

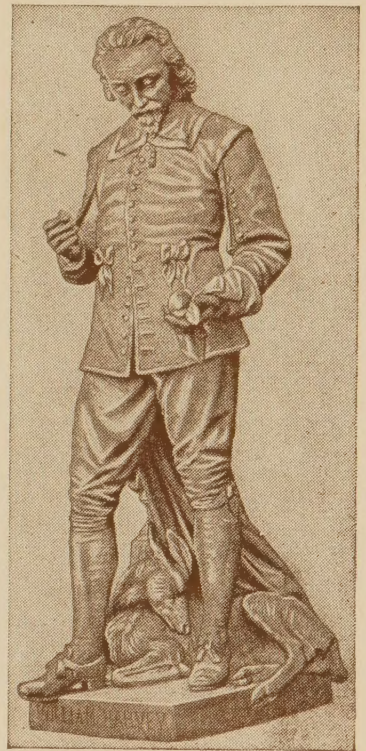
Many workers in medicine before him had had some inkling at least of the circulation of the blood and some hint of it had become part of popular tradition. Shakespeare, in the very early years of the seventeenth century made Portia, the wife of Brutus in Julius Cæsar, talk of the “ruddy drops that visit my sad heart” and it would not be difficult to find other similar expressions in literature. Harvey clinched the discovery, however, which had been in the air as it were for some time. A number of scientific workers in the preceding generation had given adumbrations of it. Servetus in a book on the Trinity had written a description of the circulation of the blood in the lungs and Realdo Columbus down in Rome had written a description of the circulation of the blood in the body, while Cæsalpinus the great botanist and Papal physician wrote a complete description of the systemic circulation which has often been quoted.

Perhaps the easiest way to bring out how many distinguished men were alive in Harvey’s time is to give a list of those who did successful work and made original discoveries which have been named after them. There was Bartholin, the Dane, after whom the glands are named, Glisson and Highmore and Wharton, the Englishmen, after whom the capsule of the liver, the antrum and the duct are named and Willis and Lower, also Englishmen, after whom the circle in the cerebral circulation and the tubercle in the heart have been called and Havers of the Haversian canals and Cowper of the glands. Then there was in Italy Bellini after whom a portion of the structure of the kidneys is named and Pacchioni after whom we have the Pacchionian bodies. Above all, in Italy there was Malpighi, after whom more structures in

the human body are named than any other, and deservedly for he used the microscope in those early days to great advantage and discovered the Malpighian corpuscles in the skin, the kidney and the spleen and supplied the missing link in Harvey's demonstration of the circulation of the blood by his discovery of the capillary anastomoses in the lungs and the capillary network between veins and arteries on the surface of the body. Besides these, others who immortalized their names because of their discoveries, were Schneider of the Schneiderian membrane in the nose (he wrote a book on catarrh 1560), Meibom, who demonstrated the conjunctival glands in the eye, Brunner of the duodenal glands, De Graaf after whom the ovarian follicles are named, Steno of the parotid duct, Peyer of the lymphoid follicles in the small intestines, Spieghel of the Spigelian lobe of the liver, Gasser of the ganglion as well as Wirsung of the duct and Aselli who discovered the lacteals, and a number of others.

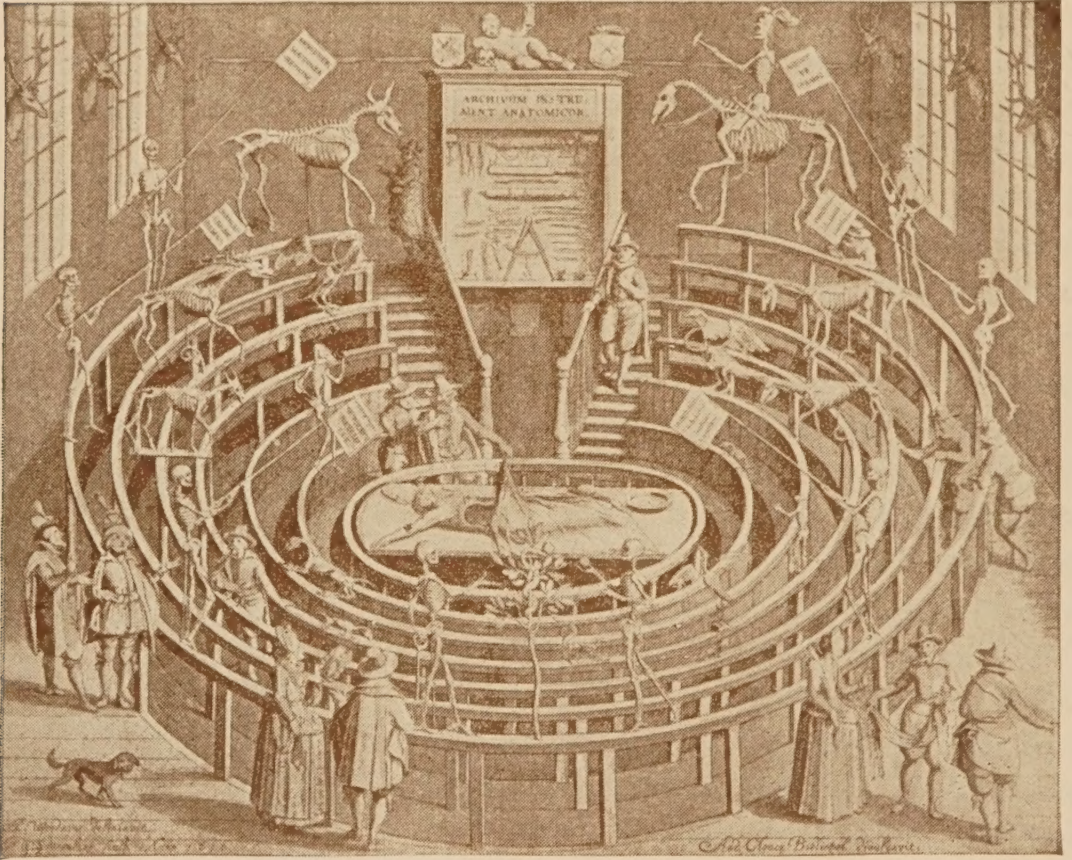
Besides physicians there were Swammerdam, the son of an apothecary, who took up the medical sciences as an amateur and did wonderful work in minute anatomy and embryology and Leeuwenhoek, who independently rich as the son of a well-to-do brewer, devoted the leisure afforded him to the making of microscopes and the doing of microscopic work which meant very much for medicine.

The first man to mention micro-organisms as the cause of disease was Father Athanasius Kircher the Jesuit whose books in all departments of science, mathematics, physics, oriental languages, music, magnetics and optics are still bibliographic treasures. He dared to investigate the blood of patients ill with the pest and declared that there were micro-organisms in it. He is the author of the doctrine of living contagion in disease. Most of the great work of this time was done either in Holland or England or Italy, with Italy probably carrying off the palm, for besides



WILLIAM HARVEY
STATUE AT FOLKESTONE
(ENGLAND)
HIS BIRTHPLACE

Malpighi there were in addition to those already mentioned Redi, an Italian naturalist who first emphatically insisted that there was no such thing as spontaneous generation, Borelli who studied the mechanics of animal motion and many others. When Steno the Dane wanted to secure special opportunities for the study of med-



THEATRUM ANATOMICUM AT LEYDEN
ENGRAVING BY W. VON SWANENBURG, 1610

ical science he spent years in Italy. Such men as Sydenham, Mayow, Robert Hooke, Robert Boyle and others made the Royal Society of England deservedly enjoy a reputation as great as it has ever had.

The seventeenth century witnessed the transfer of the centre of interest in anatomical studies from Italy to Holland. The University of Leyden and others of the Dutch Universities were visited by foreign students, particularly the English, who had been accustomed to go down into Italy the century before. Curiously enough and yet it is not surprising, anatomical scenes came to be favorites with the Dutch painters and there are a great many pictures of them to be seen in the galleries in Holland. They seem

very gruesome subjects but they represent the interest of the times. In connection with them many other medical subjects came to be painted and especially those in which the diagnosis of disease was supposed to be made by the inspection and chemical examination of the urine. Many scenes of the operations of wandering barber surgeons and of errant dentists were also pictured at this time. Holland became the centre of interest for medical studies of all kinds and three of the greatest names in the history of medicine in the seventeenth and eighteenth centuries, Boerhaave, Van Swieten and De Haen, the two latter being the founders of the Vienna school of clinical medicine, which meant so much for medical teaching all during the nineteenth century.

No wonder with this intense devotion to anatomy that surgery developed marvelously. Ruysch's dissections became the subject of artistic effort of all kinds. Anatomical materials of various sorts were made to form portions of exhibits of various kinds some of which were used as illustrations in text books. Children's skeletons were supposed to be particularly effecting and so they were used very freely in these collections and compositions for the artists.

The seventeenth century witnessed a great development of surgical armamentarium. Surgeons were almost as intent on the invention of new instruments and mechanical aids of various kinds for the treatment and relief of disease and deformity as they have been in our own time. Scultetus' book, published just after his death in 1656, contains some 50 plates of instruments as illustrations and many of these have a dozen or more; in one case some twenty different instruments as illustrations. Trusses of all kinds were fashioned and each new maker of a truss declared that his was the only one that



DR. TULPIUS' ANATOMY
PAINTING BY REMBRANDT, 1632

would properly hold in a hernia, positively prevent strangulation, allay irritation and afford complete relief as well as foster conditions that would make for eventual cure. Scultetus is the inventor of the bandage called after him and was the first to use the spica bandage as it should be employed. Among his pictures

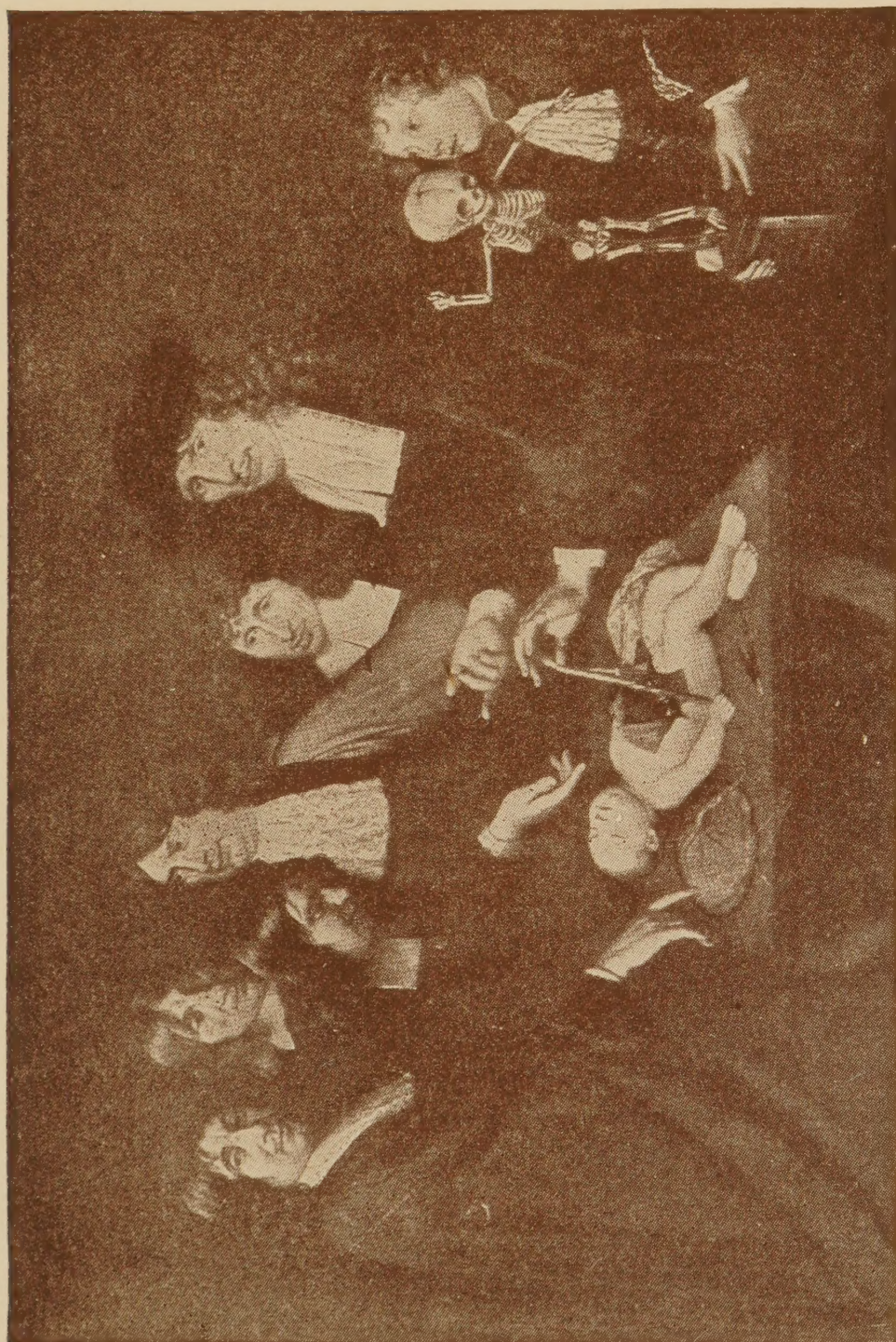
of surgical procedures a great many operations are to be found which afterwards fell into disuse to be described once more in our own time. Toward the end of the century, the French greatly developed the truss as the collection of instruments at the Paris Faculty of Medicine so well shows.

Such illustrations as we have of the actual operations, amputations and the like during the seventeenth century, show us much be-ruffled and be-wigged sur-



CATARACT OPERATION
SKETCH BY REMBRANDT

geons evidently in dress of the very height of fashion, rather daintily completing their surgical work. To the modern physician, accustomed to the sacrificial cleanliness of the operating room and the plain, austere sterile gowns and operating cap of the surgeon of the present day, such illustrations will prove a distinct shock. Some of us, however, recall seeing surgeons operate in their street garments, and those who made their medical studies in Paris even twenty-five years ago, and that would be twenty-five years after Lister, can remember very distinctly Professor Péan operating in a dress suit in hospital work and strangely enough getting some excellent results. Dress suits in the full daylight always come with a shock to English speaking people, but all the professors of the University of Paris used to lecture in them. The medieval gowns of the surgeons sometimes with their strange head coverings, supposed to prevent infection, are subjects of ridicule for the present day mind, but nearly



DR. FREDERIK RUYSCH'S ANATOMY
PAINTING BY JOHAN VAN NECK, 1683

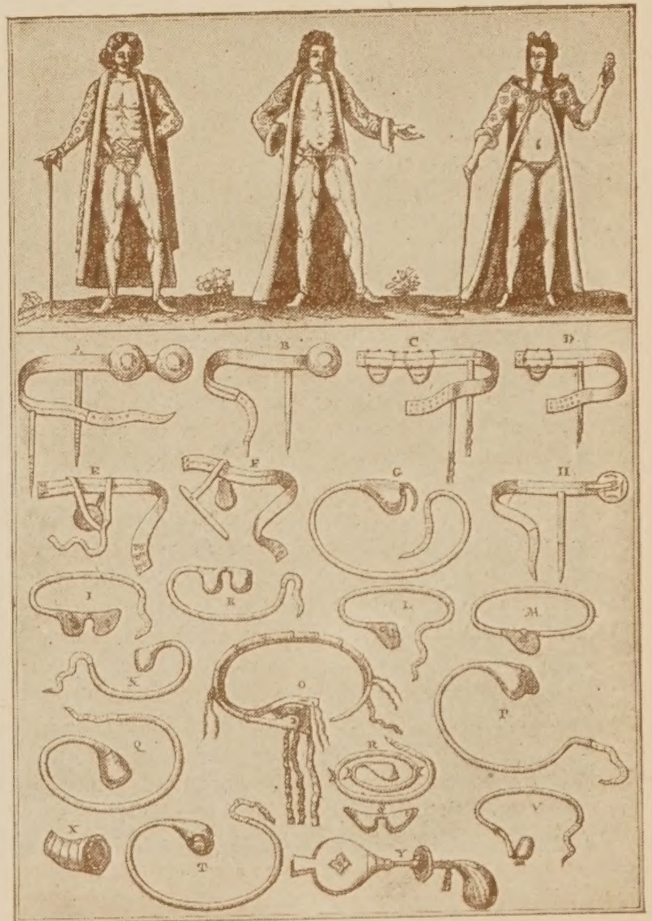


REDUCTION OF THE ARM
WOODCUT FROM
"OLD AND FAMOUS
AUTHORS OF MEDICINE
AND CHIRURGY,"
PARIS, 1643

Revolutionary army and was too well known therefore for the bigotry of surgeons intent on keeping up professional dignity to affect him. His example proved contagious and so it was not long after his time before the custom of wearing the wig went out of vogue.

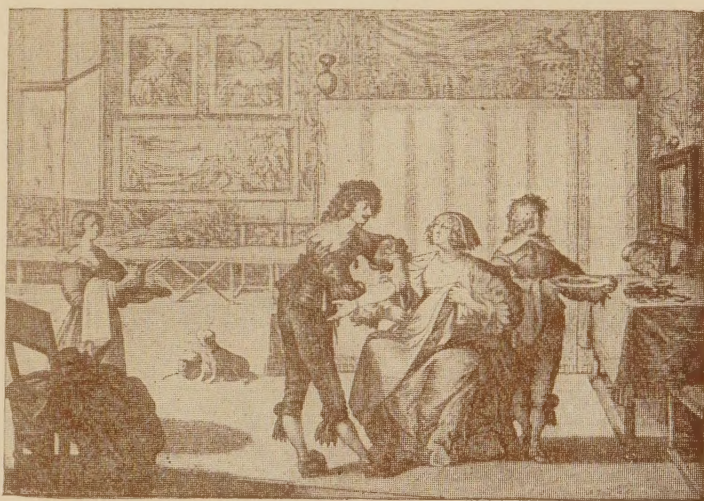
The seventeenth century was an era of chemical advancement. Van Helmont, who first used the term gas and knew hydrogen, carbon dioxide and sulphur dioxide, Boyle the Irishman, of whom one of his Irish

every generation has had something ridiculous for subsequent generations in the professional dress of its physicians. Here in America, all physicians wore wigs and carried canes until John Jones, one of the best known surgeons of the Revolutionary period, refused to wear a wig and his colleagues as a consequence declared they would hold no consultations with him, but Jones' reputation proved too much for them. He had been very successful as a surgeon during the Revolution, being particularly sent for even from long distances at times when officers were wounded. He wrote the manual which was meant to be helpful in surgical practice for the surgeons of the American



TRUSSES
ENGRAVING FROM NICOLAS DE BLÉGNY'S
"THE ART OF HEALING HERNIA," 1688

admirers said that he was the father of chemistry and brother of the Earl of Cork, who founded analytical chemistry and discovered Boyle's law, with Leeuwenhoek and Redi who were the first food chemists and at the same time laid the scientific foundation of microbiology, were all doing their work in this century. Some of our familiar remedies come from this time. Spiritus Mindereri, ammonium acetate and Glauber salts are examples. It was a time of arrant quackery, however, and the weapon salve and the sympathetic powder had many devoted adherents. The weapon salve was an extremely complex compound which had to be made under very special conditions but which was an infallible cure. *It had to be applied to the weapon that made the wound before the blood had been removed from it.* It might be applied, however, though with much less hope of success, to the garments



LETTING BLOOD

PAINTING BY ABRAHAM BOSSE, ABT 1650

of the wounded man with the blood still on them. Sir Kenelm Digby popularized the sympathetic powder. Madame de Sévigné declared it a "perfectly divine remedy." It was nothing more than green vitriol, iron sulphate, which had been allowed to calcine in the sun into fine powder. A solution of this was applied to the blood stained garments and produced wonderful results. Then there was the magnetic ointment for wounds, very learnedly attributed to the influence of animal magnetism, the blood and fat of the patient being used to make an ointment *which was applied to the weapon.* Greatrakes the stroker made an immense amount of money curing patients by stroking them during the years while Cromwell was Lord Protector and there was no king to touch for the King's Evil. The first edition of the London Pharmacopeia 1618, contains dried vipers as an antidote for poison in toxic conditions, foxes' lungs for asthma

(opotherapy), dried angle worms, oil of ants and other such things. The third edition 1677, contains steel tonics and Irish whiskey for the first time but also human urine which was highly recommended by Madame de Sévigné. All three editions contain among the pharmacals supposed to be particularly active—excreta of animals of all sorts, spider webs, cast off snake skin, human placenta, which has come back again, the sexual organs of various animals, also once more in use, ground wood lice, mummy and the wormian bones from the sagittal and lambdoid sutors of the skull of an executed criminal. This was supposed to be very effective against epilepsy.

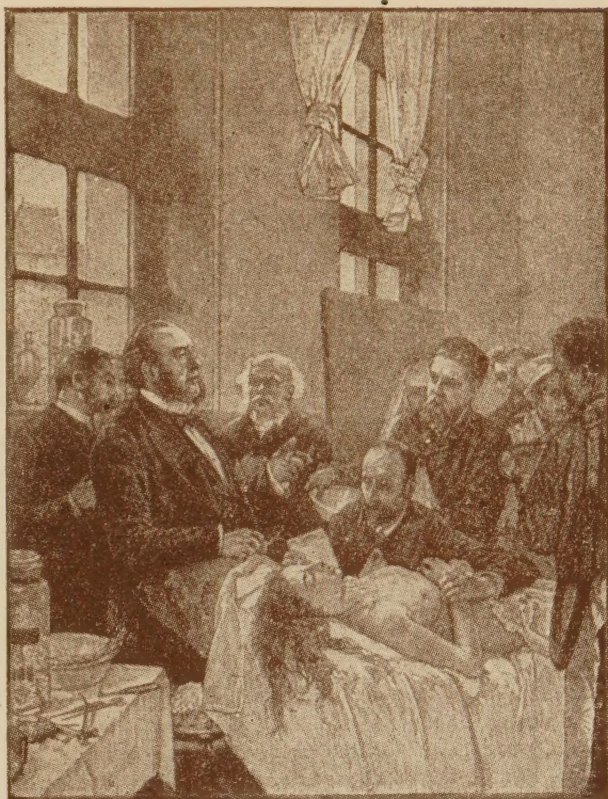
The end of the eighteenth and the early nineteenth centuries saw the development of special care for a series of patients who



FOUR STAGES OF AMPUTATING A LEG
FRENCH ENGRAVING

sadly needed care but to whom it had not been afforded. Häuy organized the care of the deaf. Dr. Gallaudet developed similar work in this country. The blind also were cared for as they had not been before and the newer recognition of the rights of all mankind which the American Declaration of Independence in our Revolution as well as the French Revolution brought important reforms in the care of a great many human beings sadly in need of them. The insane particularly had been much abused. If they had been violent they were often chained or put in manacles and sometimes fastened to a wall and left there forever after because peo-

ple were afraid to trust them. When Pinel, the great French psychiatrist knocked the shackles from the limbs of the insane in Bicêtre the great hospital outside of Paris, most people feared that there would be very serious consequences, but this represented the dawn of a new era in the care of the insane. The Quakers in London and in America took up the reformation of the care of the insane and brought a new sense of responsibility and brotherly feeling toward them into existence.

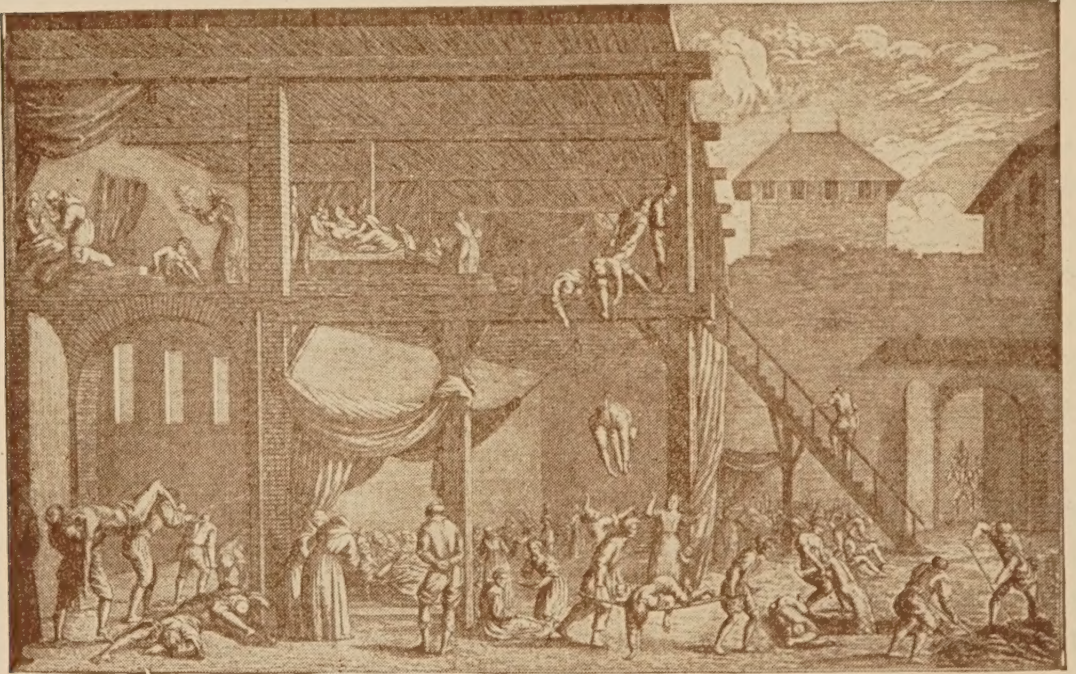


DR. PÉAN AT THE ST. LOUIS HOSPITAL, PARIS
PAINTING BY H. GERVEY

It might be thought that America shared very little in whatever progress there was in medicine because we were so much occupied with the development of our great country that there would be very little time to do more than apply European discoveries in medical practice. But as has been pointed out in the "History of Medicine in New York," the series of prize essays which were crowned by the New York State Medical Society show how thoroughly awake our forefathers of the first quarter of the nineteenth century were. Of these essays the first was on the remote and approximate causes of consumption in which it was pointed out that cold had nothing to do with it and occupations and impure air with alcohol a great deal. The second prize essay was on typhoid fever and suggested cold water and cold air as the best antiphlogistics. The third was on iodine and recommends the use of that substance in every disease in which it has been used since. The fourth was on delirium tremens and contains material of value even yet. The fifth was on trades and occupations as causes of disease and called particular attention to the over-crowding in the tenements and the consumption of quack medicine quite

in the same way that these subjects would be discussed in our own time.

The end of the eighteenth century witnessed Jenner's great work, the end of the nineteenth saw Pasteur's. The century between these represents a great period of development in the science of medicine. Jenner's discovery of vaccination as a preventive of smallpox was the forerunner of Pasteur's vaccines and preventive serums. Jenner was a student of John Hunter in London in the



THE PEST HOSPITAL AT VIENNA
WOODCUT 1679

latter half of the eighteenth century and when he went back to Gloucestershire to practice he wrote to Hunter that there was a tradition in that part of the country that the dairy maids who contracted cowpox from milking cows afflicted with that disease were protected from smallpox during epidemics of that affection. He asked Hunter what he should think about it. Hunter wrote back to him "Don't think, make some observations". The result was that Jenner introduced the practice of giving people the milder cowpox or *vaccinia*—hence vaccination—in order to protect them from the severer and often fatal smallpox and by so doing practically eradicated one of the worst diseases with which humanity was afflicted in his time.

It is hard for us to understand now how common smallpox was before Jenner's time. Practically no one expected to escape it. It occurred in regular epidemics in which nearly everyone who had not had the disease before came down with it. It was one of the great enemies of armies, often inflicting more deaths during a term in winter quarters than the army had suffered in battle during its summer campaign. The change that has come as the result of vaccination will be best realized from the fact that not a single vaccinated soldier in the American army in the recent war suffered from smallpox, though the disease developed in some of the encampments, but always among soldiers before they had been vaccinated.



PHILIPPE PINEL
STATUE, PARIS

Pasteur's work began with the discovery of the cause of silk worm disease and this very soon led to the discovery of the microbic causes of human diseases. The first of these was anthrax and Pasteur demonstrated that the anthrax bacillus found its



DR. GALLAUDET AND HIS DEAF MUTE PUPIL
STATUE BY D.C.FRENCH, WASHINGTON, D.C.

way up to the surface to infect sheep and cattle from the bodies of other animals which had died from anthrax and not been buried deeply. The anthrax bacillus was carried up to the surface in the bodies of earth worms. This called attention to the animal carriers of disease and laid the way open for the discovery so important later in the century of the fly and the mosquito and the flea as disease carriers. In his studies of fowl cholera Pasteur found that when cultures of the germ of the disease were allowed to stand for a good

while they gave a very mild form of cholera to fowl, but this mild form would protect against inoculation of the virulent germ. Pasteur introduced what were called vaccines for anthrax and for fowl cholera which saved France millions of dollars worth of cattle and poultry. His discoveries with regard to the silk worm diseases literally saved the silk industry in France and Italy.

At a meeting of the Academy of Medicine when somebody questioned the meaning of microbes in human diseases, Pasteur who was a chemist and not a physician, dared to declare that he knew exactly the cause of puerperal fever and proceeded to draw on the blackboard the picture now so familiar of a streptococcus which was then called a rosary form in reference to its bead like appearance. Soon came Pasteur's discovery of the cure for rabies and the establishment of Pasteur Institutes throughout the world for the provision of the properly infected cords to make the vaccine emulsion. In connection with these Pasteur Institutes the germ of bubonic plague and a serum for protection as well as the rat flea as the carrier of the disease were worked out.

As the result of Pasteur's labors a number of the diseases of animals are now under control and many human diseases are ever so much less fatal than before. This is particularly true as regards the diseases of children and above all the summer affections which carry off so many infants. The successful studies of bubonic plague have meant the saving of many millions of human lives. Bubonic plague has been in existence for the last twenty years in China and India, and in these crowded populations has counted its victims by



JENNER VACCINATING A CHILD
STATUE

the million. In spite of the fact that the disease succeeded in finding its way into the track of commerce and a series of cases developed at Lisbon, at Rio Janeiro and even at New Orleans and San Francisco, the disease has been kept under control in civilized countries and need no longer be dreaded. Under the name of the



LOUIS PASTEUR
MURAL PAINTING AT HIS TOMB IN PARIS
BY L. E. FOURNIER

Black Death it sometimes carried off half the population of cities of Europe during the Middle Ages. As the result of our conquest of it we were beginning to feel confidence in our power to control all epidemic disease, until infantile paralysis and the recent awful epidemic of influenza demonstrated that we needed a great deal more knowledge with regard to epidemic disease before we could hope to feel absolutely sure in the control of it.

A great development of surgery also came in connection with Pasteur's work. An English surgeon, Lister, afterwards Lord Lister, discovered the role which microbes play in the development of surgical complications. By various means he succeeded in controlling them and as a result made possible a magnificent evolution of surgery.

Just before Lister's discovery began to be practically applied, a great German surgeon declared that he would no longer operate in the hospital where he had been doing his work, because

he was doing more harm than good. Of his patients operated upon the preceding year 79% had died in the hospital. This was a climax of unfortunate results but in a great many hospitals the death rate of operated cases was 50% or more. No wonder that the poor dreaded hospitals. A great many who entered them came out only feet first to be buried. That dread is only now beginning to yield to the better confidence consequent upon our improved hospitals. Many a man who went into a hospital to be treated for some slight injury, developed erysipelas or some septic condition or perhaps hospital gangrene and died as the result. Compound fractures nearly always proved fatal or there was a long, exhausting convalescence



DR. BROCA
STATUE, PARIS

When Lord Lister went to Paris in order to be present at the celebration of the fortieth anniversary of Pasteur's professorship, he acknowledged publicly that he owed the germinative thoughts



THE DISCOVERY OF ETHER
STATUE, BOSTON, MASS.

which had enabled him to revolutionize surgery to Pasteur's discoveries. Lister himself has the usual experience of discoverers in medicine very nearly as Jenner had a century before. All the older men in the profession refused to accept his ideas and the president of one of the most important surgical societies in London referred to him as that Charlatan Lister. The French and the Germans took up Listerism much sooner than his English colleagues, and its employment during the Franco-Prussian War demonstrated beyond all doubt what could be accomplished in the saving of life and suffering by means of it. The present war has added still further to this demonstration and the wounded have had not only life but a great deal of suffering saved to them. Mutilation has been spared and there are many less cripples than would other-

wise be the case. The work of Pasteur more than any other has brought all this about.

America's great contribution to medicine and surgery is the discovery of anæsthesia. We know now that this was a re-discovery and that anæsthetics were used with excellent effect for centuries during the later Middle Ages, but that had been entirely forgotten and modern anæsthesia is due to the enterprising genius of American inventors. About the middle of the nineteenth century a great controversy raged as to whether the discovery of anæsthesia should be attributed to Morton or to Wells. When they

erected a monument in honor of the discovery of the use of anæsthetics in Boston that controversy was as yet so acute that they did not dare put anyone's name on the monument.

When someone asked Dr. Oliver

Wendell Holmes to whom the monument was erected, the genial doctor replied in his inimitable joking fashion that it was a monument to ether (either). Later it was found that Dr. Crawford Long of Georgia, a graduate of the University of Pennsylvania had used ether to produce surgical anæsthesia years before either Morton or Wells had employed it and so a medal was struck in his honor.

Hypnotism became a favorite study of the French mainly under the influence of Bernheim of Nancy, though Charcot tried to stem the tide of exaggerated interest in it and to suggest something like its true significance. Now a generation later the definition of hypnotism that has been suggested is that it is induced hysteria. Hysteria itself is merely a condition in which symptoms appear as the result of suggestion to susceptible people. The Great War with its many thousands of cases of major hysteria



A LECTURE BY CHARCOT AT THE SALPÊTRIÈRE
PAINTING BY BROUILLET

in men has enabled us to understand this better than ever and the absolutely efficient cures for so called shell shock, as worked out by the French, were isolation and application of severe forms of the faradic current. The isolation was complete, the patients being refused all reading and writing materials and even the consolation of a smoke and usually recovered rapidly. Motor cases were cured in a single seance by an application of the faradic current which through the pain inflicted compelled movement. The current was so arranged that the poles for it could be carried along a trolley and consequently the patient could not get away from the physician who was treating him. The non-commissioned officer present was then required to keep the patient in movement and prevent relapse.

Nervous diseases received their greatest development during the second half of the nineteenth century. Charcot, having received an appointment as physician to the hospitals in Paris, chose the Salpêtrière rather than any of the many hospitals with magnificent opportunities for clinical observation of acute cases which he might have chosen. The Salpêtrière was an asylum for the old and for chronic nervous disease patients.

The end of the eighteenth and the beginning of the nineteenth centuries were the scene of magnificent development of chemistry which began with Scheele and Lavoisier and Priestley and culminated in the work of Liebig and Pasteur who it must be recalled was a chemist before he became the founder of modern bacteriology. Liebig made



JUSTUS VON LIEBIG
STATUE

the physicians realize that very probably all the complex physiological chemistry of the human system could be worked out and made available for the prevention of its disturbance by disease and for the cure of such affections as had already begun. The discovery of urea by Wöhler confirmed this idea, though it was long before any definite develop-

ments came that proved a practical value. Physiological chemistry has proved valuable rather for diagnoses than for treatment and the attention of physicians in the later nineteenth century was diverted from physiology to biology by the very general discussion of the theory of evolution. Darwin and Wallace and Herbert Spencer and Haeckel occupied physicians' thoughts and formed the ground work of many theories of pathology and treatment, most of which



THE LABORATORY AT SAINT LAZARRE
PAINTING BY JULIAN STORY

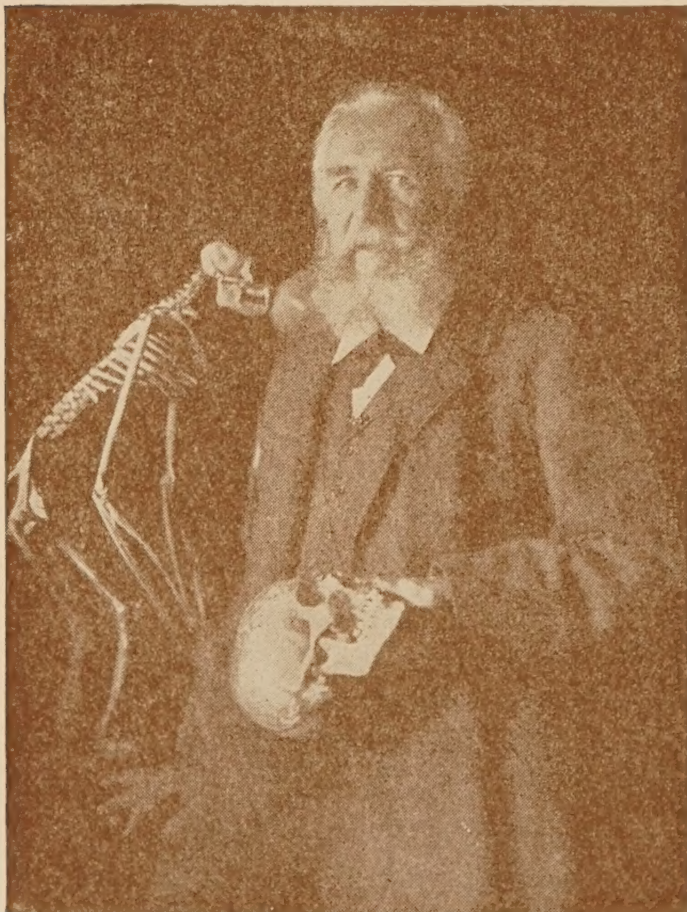
proved disappointing, though some of them are still under consideration.

The development of the specialties has been one of the striking phases of medical history in the nineteenth century. For these the world owes more to American physicians than to any others, indeed it was American enterprise which created particularly the surgical specialties. Horace Green was the founder of laryngology and O'Dwyer's invention of incubation set the cap stone on the work. The first hospital exclusively for eye diseases was founded here in America and American surgeons have done very much for the specialty. Both rhinology and otology received great advances at the hands of American surgeons who were pioneers in treating deflections of the septum, removing spurs and other difficulties of nasal breathing. The specialty of orthopedics

is almost entirely due to American physicians and the crippled children of the world suffer ever so much less and are able to get through life ever so much more successfully as the result of the application of American ingenuity to the relief of their conditions. The treatment of tuberculosis has become a specialty in America and under the incentive of Trudeau and the recognition of what a republic owes to its citizens whenever it can help them to a longer and happier life, the various States have taken up the solution of the problem of providing outdoor treatment for all those who need it so that the death rate from tuberculosis has been distinctly reduced and an example set for other countries in this matter.

The later part of the nineteenth century witnessed a great development of surgery in America with such men as Valentine Mott, Frank Hamilton, Gross, and Agnew as the leaders of it. Appendicitis, which for centuries had been the cause of many

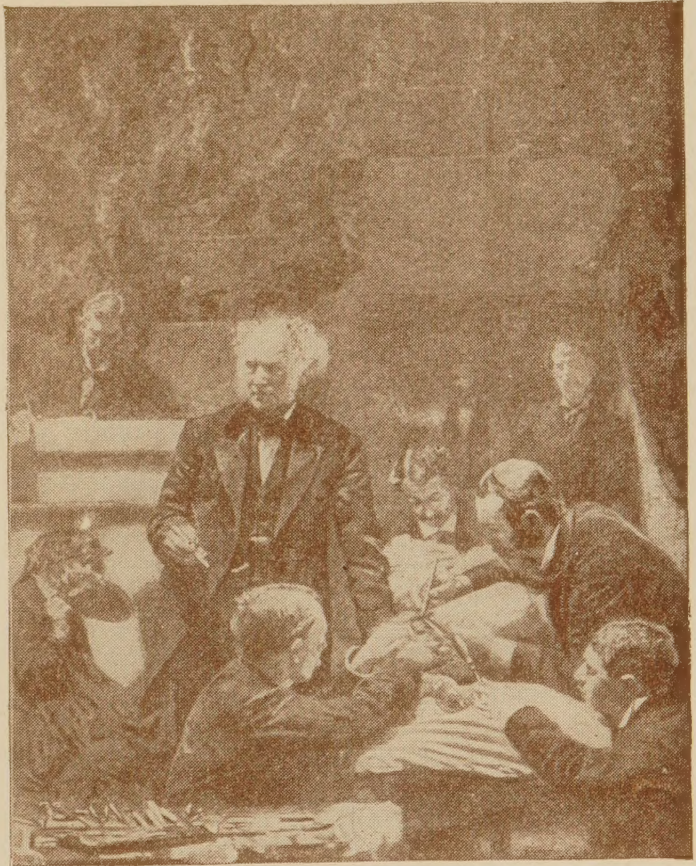
deaths, was attributed to poison and other factors. For centuries it had been recognized that there was some special element in the right lower quadrant of the abdomen liable to develop serious conditions. It was not until a series of operations in New York and then Fitz's magnificent pathological work in Boston revealed the appendix as the constant causative factor, that the key to this very serious problem was obtained. While this was being done the specialty of women's diseases was



PROFESSOR E. H. HAECKEL
PORTRAIT

being worked out by Marion Sims and Emmet and others. World surgery owes much to American enterprise in these subjects and has been quite willing to acknowledge its obligations.

The second part of the nineteenth century saw the beginning of reform in medical education. Medical schools under the domination of the historic septennate of professors had been carried on entirely for the benefit of the staff from a monetary point of view and laboratory and clinical development had been to a great extent neglected. About the middle of the nineteenth century the only requirements for medical education were the hearing of two terms of lectures during four months of two successive years. The lectures were ungraded, that is they were the same in the two years.



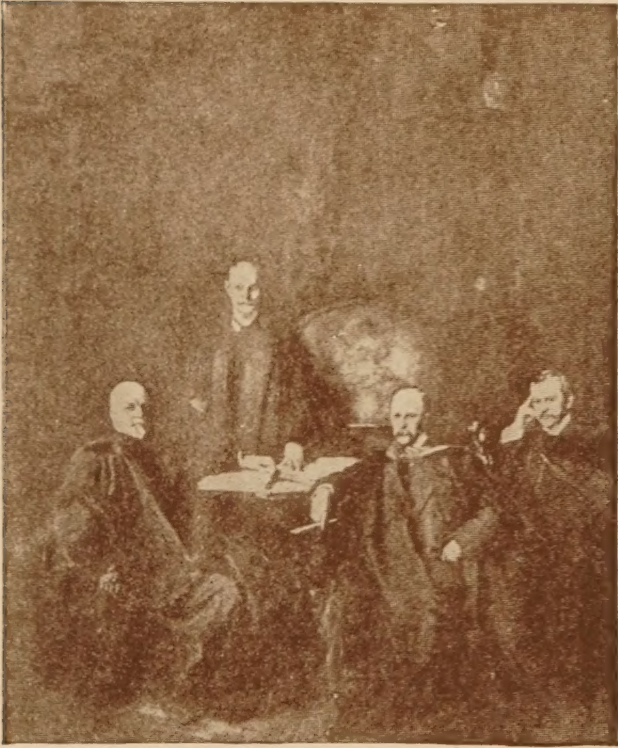
DR. GROSS' SURGICAL CLINIC
PAINTING BY THOMAS EAKINS

No State license to practice medicine was needed and the degree of doctor in medicine was a license to practice anywhere. Besides there were many institutions which issued counterfeit diplomas of medicine and the country was flooded with physicians who had never received any proper training. Gradually the American Medical Association helped to counteract this unfortunate state of affairs, but reform was slow because professors making money were entrenched in the old schools. With the foundation of John Hopkins Medical School at Baltimore, a definite programme of reform to a really high plane of medical education was initiated. Only graduates of colleges were received as

medical students and four years of medical study were required before the degree of doctor was conferred. The leaders of the faculty at Johns Hopkins, Osler, now Sir William, Dr. William H. Welch, Howard Kelly and Halsted, whose characters and fea-

tures Sargent has so well portrayed in his great painting, deserve a high place in the history of American medical education.

The medical problems which occupy the twentieth century are in preventive medicine. The favorable solution of these seemed more assured until the recent disturbing epidemics of infantile paralysis and influenza proved so serious. Besides the prevention of disease modern medicine now feels itself under the necessity of preventing hereditary defectiveness or deformity of any and every kind



FROM LEFT TO RIGHT:
DR. WILLIAM H. WELCH, DR. WILLIAM S.
HALSTED, DR. WILLIAM OSLER,
DR. HOWARD A. KELLY
PAINTING BY JOHN S. SARGENT

Eugenics, that is the science of making it possible for everyone to be born well, that is without handicap, occupies physicians' minds, while it has come to be recognized that euthenics, the well placing of people, that is the creation and maintenance of an environment which will be suitable for good health is also a medical problem. The prevention of disease has reacted unfavorably to mankind by the preservation of many individuals who under ordinary circumstances would have died young. As a consequence many more defectives now live on to adult life than before, and another great problem, that is the prevention of the procreation of such unsuitable individuals, devolves on modern medicine which has created the problem. In this way certain moral ills now come to the physician for consideration and not a

few prisoners and law breakers prove really to be subjects for medical surveillance and treatment rather than for incarceration in prisons.

In a word then the medical profession, whose annals began some 6000 years ago with a physician to whom was given the honorable titles of Master of Secrets and Bringer of Peace, now finds itself in a position where it has mastered many of the physical secrets of human life, has greatly lengthened the average of human existence and must more than ever before take up the problem of bringing peace to the minds of mankind. In the midst of the disturbed times in which we are it is easy to understand how difficult this task is, and yet it is difficulty that spurs on to renewed endeavors, and the social obligations of the medical profession promise to be as stimulating as were the tasks of affording physical relief which seemed the sole duty before our time.



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